

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2006-26527; Directorate Identifier 2006-NM-220-AD; Amendment 39-14850; AD 2006-25-09]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model MD-11F Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain McDonnell Douglas Model MD-11F airplanes. This AD requires a general visual inspection for installation of conduit and chafing damage on the auxiliary power unit (APU) power feeder wires and the upper surface of the auxiliary fuel tank and repair if necessary. This AD results from fuel system reviews conducted by the manufacturer. We are issuing this AD to detect and correct unprotected APU power feeder wires that come into close proximity to the upper surface of the auxiliary "piggy back" fuel tank, which could result in a potential ignition source, and in combination with flammable fuel vapors, could cause a fuel tank explosion and consequent loss of the airplane.

DATES: This AD becomes effective December 27, 2006.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of December 27, 2006.

We must receive comments on this AD by February 12, 2007.

ADDRESSES: Use one of the following addresses to submit comments on this AD.

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Government-wide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590.
- Fax: (202) 493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Contact Boeing Commercial Airplanes, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Data and Service Management, Dept. C1-L5A (D800-0024), for the service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Samuel Lee, Aerospace Engineer, Propulsion Branch, ANM-140L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5262; fax (562) 627-5210.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA has examined the underlying safety issues involved in fuel tank explosions on several large transport airplanes, including the adequacy of existing regulations, the service history of airplanes subject to those regulations, and existing maintenance practices for fuel tank systems. As a result of those findings, we issued a regulation titled "Transport Airplane Fuel Tank System Design Review, Flammability Reduction and Maintenance and Inspection Requirements" (66 FR 23086, May 7, 2001). In addition to new airworthiness standards for transport airplanes and new maintenance requirements, this rule included Special Federal Aviation Regulation No. 88 ("SFAR 88," Amendment 21-78, and subsequent Amendments 21-82 and 21-83).

Among other actions, SFAR 88 requires certain type design (i.e., type certificate (TC) and supplemental type certificate (STC)) holders to substantiate that their fuel tank systems can prevent ignition sources in the fuel tanks. This requirement applies to type design holders for large turbine-powered transport airplanes and for subsequent modifications to those airplanes. It requires them to perform design reviews and to develop design changes and maintenance procedures if their designs do not meet the new fuel tank safety standards. As explained in the preamble to the rule, we intended to adopt airworthiness directives to mandate any changes found necessary to address unsafe conditions identified as a result of these reviews.

In evaluating these design reviews, we have established four criteria intended to define the unsafe conditions associated with fuel tank systems that require corrective actions. The percentage of operating time during which fuel tanks are exposed to flammable conditions is one of these criteria. The other three criteria address the failure types under evaluation: Single failures, single failures in combination with a latent condition(s), and in-service failure experience. For all four criteria, the evaluations included consideration of previous actions taken that may mitigate the need for further action.

We have determined that the actions identified in this AD are necessary to reduce the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

Boeing also conducted an investigation and analysis on McDonnell Douglas Model MD-11 airplanes that revealed that eleven airplanes had two locations of unprotected auxiliary power unit (APU) power feeder wires that come into close proximity to the upper surface of the auxiliary "piggy back" fuel tank. Unprotected APU power feeder wires that come into close proximity to the upper surface of the auxiliary "piggy back" fuel tank, could result in a potential ignition source and, in combination with flammable fuel vapors, could cause a fuel tank explosion and consequent loss of the airplane.

Relevant Service Information

We have reviewed Boeing Alert Service Bulletin (ASB) MD11-24A222, dated August 16, 2006. The ASB describes procedures for performing a general visual inspection for installation of conduit and chafing damage on the APU feeder wires and upper surface of the auxiliary fuel tank. If

protective conduit is installed, the ASB specifies that no further action is necessary. If no protective conduit is installed and no chafing is found, the ASB describes procedures for installing sleeving and high temperature tape and replacing clamps below the cabin floor beams. If no protective conduit is installed and chafing is found, the ASB describes procedures to repair any damaged APU power feeder wires and any damaged upper surface of the auxiliary fuel tank structure, as well as installing sleeving and high temperature tape and replacing clamps below the cabin floor beams. Accomplishing the actions specified in the service information is intended to adequately address the unsafe condition.

FAA's Determination and Requirements of This AD

The unsafe condition described previously is likely to exist or develop on other airplanes of the same type design that may be registered in the U.S. at some time in the future. Therefore, we are issuing this AD to detect and correct unprotected APU power feeder wires that come into close proximity to the upper surface of the auxiliary "piggy back" fuel tank, which, if not corrected, could result in a potential ignition source, and in combination with fuel vapors, could cause a fuel tank explosion and consequent loss of the airplane. This AD requires accomplishing the actions specified in the service information described previously.

Costs of Compliance

None of the airplanes affected by this action are on the U.S. Register. All airplanes affected by this AD are currently operated by non-U.S. operators under foreign registry; therefore, they are not directly affected by this AD action. However, we consider this AD necessary to ensure that the unsafe condition is addressed if any affected airplane is imported and placed on the U.S. Register in the future.

If an affected airplane is imported and placed on the U.S. Register in the future, the required actions would take about 1 work hour per airplane, at an average labor rate of \$80 per work hour. Based on these figures, the estimated cost of the AD would be \$80 per airplane.

FAA's Determination of the Effective Date

No airplane affected by this AD is currently on the U.S. Register. Therefore, providing notice and opportunity for public comment is unnecessary before this AD is issued, and this AD may be made effective in less than 30 days after it is published in the Federal Register.

Comments Invited

This AD is a final rule that involves requirements that affect flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any relevant written data, views, or arguments regarding this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2006-26527; Directorate Identifier 2006-NM-220-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD that might suggest a need to modify it.

We will post all comments we receive, without change, to <http://dms.dot.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of that Web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You

may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78), or you may visit <http://dms.dot.gov>.

Examining the Docket

You may examine the AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the DOT street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after the Docket Management System receives them.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in subtitle VII, part A, subpart III, section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):



2006-25-09 McDonnell Douglas: Amendment 39-14850. Docket No. FAA-2006-26527; Directorate Identifier 2006-NM-220-AD.

Effective Date

- (a) This AD becomes effective December 27, 2006.

Affected ADs

- (b) None.

Applicability

- (c) This AD applies to certain McDonnell Douglas Model MD-11F airplanes, identified in Boeing Alert Service Bulletin MD11-24A222, dated August 16, 2006; certificated in any category.

Unsafe Condition

- (d) This AD results from fuel system reviews conducted by the manufacturer. We are issuing this AD to detect and correct unprotected auxiliary power unit (APU) power feeder wires that come into close proximity to the upper surface of the auxiliary "piggy back" fuel tank, which could result in a potential ignition source, and in combination with flammable fuel vapors, could cause a fuel tank explosion and consequent loss of the airplane.

Compliance

- (e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

General Visual Inspection

- (f) Within 24 months after the effective date of this AD, perform a general visual inspection for installation of conduit and chafing damage on APU power feeder wires and upper surface of the auxiliary fuel tank, in accordance with Boeing Alert Service Bulletin MD11-24A222, dated August 16, 2006. Before further flight, accomplish any applicable repair or replacement in accordance with the alert service bulletin.

Alternative Methods of Compliance (AMOCs)

- (g)(1) The Manager, Los Angeles Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) Before using any AMOC approved in accordance with § 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards Certificate Holding District Office.

Material Incorporated by Reference

(h) You must use Boeing Alert Service Bulletin MD11-24A222, dated August 16, 2006, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Boeing Commercial Airplanes, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Data and Service Management, Dept. C1-L5A (D800-0024), for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Room PL-401, Nassif Building, Washington, DC; on the Internet at <http://dms.dot.gov>; or at the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on November 30, 2006.

Kevin M. Mullin,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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